

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R048XA006NM

Site Name: Mountain Meadow

Precipitation or Climate Zone: 15 to 30 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is characterized by basins, swales or mountain valley topography. The site occurs as lower lying drainageways, flats or other depressional areas where extra moisture accumulates as a result of runoff from surrounding higher sites. Open parks or park-like areas having a relatively high water table are included within this site. Also included are the broader, flat, mountain valley areas immediately adjacent to a permanent stream. A high water table is characteristic of this site particularly in the spring and a portion of the area may have open water during this season. Springs or seeps bring the water table to the subsoil or even to the surface, in which instance the site may colloquially be called a “cienaga”.

Slopes vary from flat to gently sloping, not to exceed 5 percent. The exposure varies and is not significant. Elevation ranges from 7,000 to 9,500 feet above sea level.

Land Form:

1. Mountain valley
2. Swale
- 3.

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	7,000	9,500
Slope (percent)	0	5
Water Table Depth (inches)	18	>72
Flooding:	Minimum	Maximum
Frequency	Occasional	Frequent
Duration	Long	Long
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Medium to very high.

CLIMATIC FEATURES

Narrative:

Climate is typical of Rocky Mountain areas encountered at elevations extending between the pinyon/juniper type and the high mountain sites where spruce and fir become an important part of the aspect. The average annual precipitation varies from 15 to 25 inches and varies considerable from year to year. It also varies from low elevations to high elevations. Half or more of the precipitation comes in the form of snow; however, the key to existence of this site is the natural sub-irrigation and cool mountain climate rather than total amount of precipitation. A feature of the climate of this site is the usual winter snowfall that is received during the period from November through March. Snowfall accumulations during this period are irregular as indicated by the fluctuation of the annual precipitation. This site is an important site from the standpoint of water yield in the overall watershed conservation program. During some years, accumulations of several feet of snow are found on this site in the early spring. Summer precipitation is received during the period from June through September, although the total amount of this season is 50 percent of the total. Summer storms are violent thunderstorm type of short duration and high intensity.

Air temperatures vary from a monthly mean of 19 degrees F in January to 57 degrees F in July at the higher elevations. At the lower elevations, the mean monthly temperature in January is approximately 22 degrees F and in July it is 68 degrees F. Winter low temperatures fall well below 0 degrees F during much of the winter. Dates of the last killing frost may vary from May 6th to June 15th. The first killing frost from September 9th to October 11th.

The frost-free season ranges from 79 days at the higher elevations to 140 days at the lower elevations. The growing season varies elevationally from three months at the higher elevations to approximately five months at the lower elevations.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	103	144
Freeze-free period (days):	127	169
Mean annual precipitation (inches):	15	30

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.32	.88	14.2	46.8
February	.33	1.13	16.7	50.0
March	.62	1.79	20.4	55.7
April	.81	1.71	25.6	63.6
May	1.12	2.00	33.3	72.7
June	1.26	2.27	40.6	82.4
July	2.68	4.24	44.9	84.9
August	2.87	4.48	44.0	81.8
September	1.63	1.92	38.1	76.8
October	1.05	1.64	29.2	67.7
November	.56	1.15	20.3	55.6
December	.41	1.06	14.5	48.7

Climate Stations:

				Period	
Station ID	<u>291813</u>	Location	<u>Cimarron 4SW, NM</u>	From:	<u>5/1/1904</u> To: <u>12/31/01</u>
Station ID	<u>293488</u>	Location	<u>Gascon, NM</u>	From:	<u>11/18/53</u> To: <u>12/31/01</u>
Station ID	<u>296275</u>	Location	<u>Ocate 1N, NM</u>	From:	<u>08/01/60</u> To: <u>12/31/01</u>
Station ID	<u>296676</u>	Location	<u>Pecos Ranger Station, NM</u>	From:	<u>01/01/16</u> To: <u>12/31/01</u>

INFLUENCING WATER FEATURES**Narrative:**

This site may be influenced by water from a stream and at times may be considered a wetland.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These soils consist of deep to moderately deep soils and moderately well to poorly drained. The surface texture ranges from a very fine sandy loam to a mucky silty clay and clay surface layers. They have an active water table, which varies from the surface to 5 feet below the surface. They are normally non-saline and have high organic content. These soils have moderate to moderately slow permeability. Runoff is medium. Available water-holding capacity is moderate. The effective rooting depth is 20 inches to more than 60 inches.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Silty clay loam

2. Very fine sandy loam

3. Loam

4. Mucky silty clay

5. Mucky silty clay loam

6. Clay

7. Channery clay loam

Surface Texture Modifier:

1. Channery

2.

3.

Subsurface Texture Group: Clayey

Surface Fragments ≤ 3 " (% Cover): N/A

Surface Fragments > 3 " (% Cover): 15 to 35

Subsurface Fragments ≤ 3 " (% Volume): N/A

Subsurface Fragments ≥ 3 " (% Volume): 15 to 35

Drainage Class:	Minimum Very poorly	Maximum Well
Permeability Class:	Impermeable	Moderately slow
Depth (inches):	8	>72
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	0.00	5.00
Soil Reaction (1:1 Water):	6.1	9.0
Soil Reaction (0.1M CaCl₂):	N/A	N/A
Available Water Capacity (inches):	6	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

Cool-season bunch grasses and sedges that give it its characteristic appearance dominate this site. Approximately 15 percent of the total plant composition are made up of sedges. Perennial and annual forbs constitute less than 10 percent of the plant community. Herbaceous half-shrubs are present only in trace amounts. Since principally shallow ground water and high water tables supply moisture for plant growth, the annual precipitation received is not as critical as the drier sites adjoining it. Sedges and rushes become conspicuous only in the wetter or swampier portions of the site. Forage yield is comparable to domestic tame pastures; top condition, this site presents the appearance of a hay field. There are no trees associated with this site.

Canopy Cover:

Trees	0
Shrubs and half shrubs	0
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	60
Bare ground	10
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	10

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	2,040	2,380	2,975
Forb	240	280	350
Tree/Shrub/Vine	120	140	175
Lichen			
Moss			
Microbiotic Crusts			
Total	2,400	2,800	3,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	DECA18	Tufted Hairgrass	560 – 700	560 – 700
2	CANE2 ANVI CAREX	Nebraska Sedge Broomsedge Sedge spp.	336 – 420	336 – 420
3	BRMA4	Mountain Brome	196 – 280	196 – 280
4	PASM	Western Wheatgrass	196 – 280	196 – 280
5	SCRIP JUTE JUBA	Bulrush Poverty Rush Baltic Rush	196 – 280	196 – 280
6	FERU2	Red Fescue	196 – 280	196 – 280
7	CACA4 POLE2	Bluejoint Reedgrass Bog Bluegrass	196 – 280	196 – 280
8	MUMO	Mountain Muhly	84 – 140	84 – 140
9	MURA MUWR HOBR2 AVSA	Marsh Muhly Spike Muhly Meadow Barley Oatgrass spp.	84 – 140	84 – 140
10	2GRAM	Other Grasses	84 – 140	84 – 140

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	TRIFO	Clover spp.	84 – 140	84 – 140
12	ACMI2 IRIS ASTER GERAN AGHE2 VICIA	Western Yarrow Iris spp. Aster spp. Geranium spp. Mountain Dandelion Vetch	84 – 140	84 – 140
13	2FORB	Other Forbs	84 – 140	84 – 140

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	CHILO DAFL3	Willow spp. Shrubby Cinquefoil	84 – 140	84 – 140

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear include: timothy, prairie junegrass, subalpine needlegrass, shortawn foxtail, blue grama, redtop, slender wheatgrass and sheep fescue.

Plant Growth Curves

Growth Curve ID 3106NM

Growth Curve Name: HCPC

Growth Curve Description: Cool-season bunch grass grassland with traces of shrubs and forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by elk, bridled weasel, raccoon, water shrew, meadow vole, western jumping mouse, leopard frog and western territorial garter snake. The brewer's blackbird, savanah sparrow and white crowned sparrow nest in these sites. Mule deer use the sites seasonally.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Ceboya	C
Cumulic Haplaquolls	C, D
Deep inclusion	D
Frolic	C
Hosta	C
Inclusion	C
Intermittent Lakes	C, D
Intermittent Ponds	D, C
Lomapedro	C
Minor Components	D
Rombo	D
Saladon	D
Seelez	D
Wiggler	D
Wilmac	C
Zau	C

Recreational Uses:

This site provides limited recreation potential due to the dense vegetation when it is in its top ecological condition. Small mountain streams provide trout fishing. The natural beauty is enhanced by the change from wooded areas and grassland areas to the green meadows.

Wood Products:

This site produces no wood products.

Other Products:

Grazing:

This site is adapted for late spring, summer and early fall grazing. The grazing season varies elevationally from three to five months. Livestock use on this site ordinarily starts in mid-May or early June and extends through fall. This site can be used by all classes of livestock regardless of age during this season; however, cattle and horses are better suited to this site because of the coarse forage that is produced by tufted hairgrass as it matures. Although tufted hairgrass withstands fairly close grazing and is usually relished by all classes of livestock, new plants are established entirely from seed, and sufficient seed should be permitted to mature in order to provide the necessary replacements. Continuous grazing throughout the entire season will cause species such as tufted hairgrass, mountain brome, red fescue and oatgrass to decline. Species most likely to invade the site are dandelions and introduced forage grasses, especially timothy, redtop and Kentucky bluegrass. Canadian thistle is a troublesome invader in some spots. As the ecological conditions decline, some of the above plants usually become predominant. Several plants, in smaller amounts, natural to the site also increase at the expense of most of the desirable grasses. Typical plants in this category are Baltic rush, iris, western yarrow and cinquefoil. Shrubby cinquefoil or iris often gives the dominant aspect to many deteriorated spots. Sedges on predominantly wet spots retain their position much longer than plants on slightly drier spots because of the reluctance of livestock to graze in water. Gullies can lower the watertable greatly, changing the moisture relationship on sloping ground. To maintain or to improve on a healthy, well-balanced plant community, grazing needs to be delayed until the plants have had the opportunity to make good growth in the spring. Rapid growth of plants in the spring may temporarily deplete food reserves. Delay grazing until the plants have had the opportunity to restore this food supply is advisable. A system of deferred grazing, which varies the time of grazing and rest in the pastures during successive years, will result in a healthy, well-balanced plant community. Deferment is needed for seed production and forage production. Approximately 95 percent of the annual yield is from species that furnish forage for grazing animals. Maximum forage production on this site can be achieved by using it for hay.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	Ac/AUM
100 - 76	0.5 – 0.9
75 – 51	0.8 – 2.1
50 – 26	1.4 – 3.2
25 – 0	3.2+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Oatgrass	Avena sativi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Red Fescue	Festuca rubra	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bluejoint Reedgrass	Calamagrostis canadensis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Nebraska Sedge	Carex nebrascensis	EP	D	D	P	P	P	P	P	P	D	D	D	D
Aster	Aster spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vetch	Vicia spp.	EP	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock

Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Oatgrass	Avena sativi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Red Fescue	Festuca rubra	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bluejoint Reedgrass	Calamagrostis canadensis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Nebraska Sedge	Carex nebrascensis	EP	D	D	P	P	P	P	P	P	D	D	D	D
Aster	Aster spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vetch	Vicia spp.	EP	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Oatgrass	Avena sativi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Red Fescue	Festuca rubra	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Nebraska Sedge	Carex nebrascensis	EP	U	U	D	D	D	U	U	U	U	U	U	U
Broomsedge	Andropogon virginicus	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountain Dandelion	Agoseris heterophylla	EP	U	U	D	D	D	D	D	D	U	U	U	U
Aster	Aster spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vetch	Vicia spp.	EP	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Wildlife

Animal Type: Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Oatgrass	Avena sativi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Red Fescue	Festuca rubra	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bluejoint Reedgrass	Calamagrostis canadensis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Nebraska Sedge	Carex nebrascensis	EP	D	D	P	P	P	D	D	D	D	D	D	D
Aster	Aster spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vetch	Vicia spp.	EP	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Wildlife

Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Aster	Aster spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Clover	Trifolium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Vetch	Vicia spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: Colfax, Mora, Rio Arriba, Sandoval, San Miguel, Santa Fe, Taos

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Rocky Mountains 48 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Colfax, Taos, Mora, San Miguel, and Santa Fe.

Characteristic Soils Are:

Ceboya, Cumulic Haplaquolls, Deep Inclusion	Frolic, Hosta, Inclusion, Intermittent Lakes
Intermittent Ponds, Lomapedro	Minor Components, Rombo, Saladon, Seelez
Wiggler, Wilmac, Zau	
Other Soils included are:	

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	09/01/78	Don Sylvester	09/01/78
<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	09/30/02	George Chavez	2/12/03